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**4636**

**BOARD DIPLOMA EXAMINATION, (C-14)**  
**MARCH/APRIL-2019**  
**DEEE - FIFTH SEMESTER EXAMINATION**  
**ELECTRICAL UTILIZATION**

Time:3 Hours

Max.Marks:80

**PART-A****10x3=30M**

**Instructions:** 1) Answer all questions. Each question carries three marks.  
 2) Answer should be brief and straight to the point and shall not exceed five simple sentence.

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|---|-------|
| 1. Define i) MHCP ii) MSCP  | 1½+1½ |
| 2. Define luminous intensity and lumen                            | 1½+1½ |
| 3. What do you understand by local lighting and general lighting. | 1½+1½ |
| 4. State the requirements of good heating element.                | 3m    |
| 5. List the applications of direct resistance heating.            | 3m    |
| 6. Write any three advantages of welding.                         | 3m    |
| 7. Write about working of a refrigerator.                         | 3m    |
| 8. Name four basic stages of a refrigeration cycle.               | 3m    |
| 9. List the disadvantages of CFLs.                                | 3m    |
| 10. Write a brief note on energy storage devices.                 | 3m    |

**PART-B**

**5x10=50M**

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**Instructions:** 1) Answer any five questions and each question carries ten marks.  
2) The answer should be comprehensive and the criteria for valuation is the content but not the length of the answer.

11. a) State and explain inverse law of illumination 5m  
b) A lamp of 1000CP is hung 10m over the centre of floor of a hall 15m square. Find the illumination at the point immediately below the lamp and at corners by neglecting reflection from walls and ceiling 5m
12. A lamp having M.S.C.P of 800 is suspended at a height of calculate  
i) Total flux of light 10m.  
ii) The illumination directly below the lamp at the working plane.  
iii) Illumination at point 2.5 m away on the horizontal plane from vertically below the lamp
13. Explain the construction and operation of coreless induction furnace.
14. a) Explain the principle of induction heating. 5m  
b) Draw the neat sketch of a Ajax wyatt furnace and explain about it 5m
15. Explain the principle of operation of welding transformer with neat sketch
16. a) Compare resistance welding and arc welding 5m  
b) List the advantages of electronic control of welding 5m
17. a) What do you understand by air conditioning 5m  
b) Write brief notes on various components of an air conditioner 5m
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18. Draw and explain about working of illumination control using LDR. 10m

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